

Unit 2

Study Guide

Name

Date

Period

Directions: There are 4 major sections for this unit. Fill in the following information below as a study guide for your unit 2 exam. You will receive 5 extra credit points on your test if you turn this in 100% completed on the day of the exam. Your responses need to be **close to the real answer** and **all questions must be answered** to receive credit.

SECTION 1: CELL ORGANELLES (LESSON 2.1 and 2.2)

You will need to know the following for this section: recognize the organelles in a cell, know the general function of the organelles, distinguish between plant and animal cells, know the difference between prokaryotic and eukaryotic cells, and finally know that the cells within an organism can be different based on their function.

1. List the organelles for the following:

Plant

Animal

2. List the functions of the organelles found within animal cells.

3. What are the differences between prokaryotic and eukaryotic cells?

4. How would the cells within your muscles be different from the cells within your stomach?

SECTION 2: OSMOSIS AND DIFFUSION (LESSONS 2.3, 2.4, AND 2.5)

You will need to know the following concepts; determine how cells respond in different solutions and why, know that cell membranes are selectively permeable to water, and define osmosis.

5. Define isotonic, hypotonic and hypertonic solutions.

6. How would a cell respond in each type of solution and why? Draw and label a diagram for each with arrows to show the direction of the movement of water.

Isotonic

Hypertonic

Hypotonic

7. What are cell membranes permeable to?
8. What are they impermeable to?
9. Define osmosis.
10. How is osmosis different from diffusion?

SECTION 3: MACROMOLECULES (LESSON 2.6 and 2.7)

You will need to know the following for this section; identify the four major types of macromolecules, know starch and sugar are carbohydrates, identify the monomers for the major macromolecules, name the indicator used to test for each of the macromolecules, and determine if a test is positive or negative for each of the macromolecules.

11. What are the 4 major macromolecules?
12. How are starch and sugar similar?
13. How are starch and sugar different?
14. List the monomers for starch, sugar, fats, and proteins.
15. Complete the table below:

Indicator	Macromolecule it tests for	Positive result	Negative result

SECTION 4: ENZYMES (LESSON 2.8 and 2.9)

You will need to understand the following concepts; the definition of an enzyme, the purpose of an enzyme, whether an enzyme is changed in a chemical reaction, and the factors that can affect enzymes.

16. What is an enzyme?
17. Why are enzymes essential to living organisms? What job do they perform?
18. Are enzymes changed in a chemical reaction? Explain your answer.
16. List 5 factors that can affect how well enzymes work.